



STATE OF ARIZONA
DEPARTMENT OF EMERGENCY AND MILITARY AFFAIRS
DEMA Procurement Office, Building #M5330
5636 East McDowell Road
Phoenix, Arizona 85008-3495.

INVITATION FOR BID NUMBER: M8-0066

BID DUE DATE: 2:00 pm (AZ TIME), August 26, 2008

In accordance with Arizona Revised Statute §41-2533, competitive sealed Bids for the material or service specified will be received by the Department of Emergency and Military Affairs (hereinafter referred to as Department) Procurement Office (State), location identified above, until the date and time cited. Offers received will be opened and read publicly.

Bids must be in the possession of the Department Procurement Office (State) on, or prior to, the due date and time. Except as provided in the Arizona Procurement Code, late bids will not be considered. Offerors submitting late bids will be so notified.

Bids must be submitted in a sealed envelope with the Invitation for Bid Number and the Offeror's name and address clearly indicated on the envelope. All bids must be completed in ink or be typewritten. Additional instructions for preparing bids are provided herein. Offerors are encouraged to carefully read the entire Solicitation.

People with disabilities may request special accommodations such as interpreters, alternative formats, or assistance with physical accessibility. Requests for special accommodations must be made with 72 hours prior notice to the Department of Emergency & Military Affairs Procurement Office.

MATERIAL OR SERVICE: Igloo Waterproofing at Camp Navajo, Bellemont AZ

(Drawings can be requested by calling the DEMA office 602 267-2699)


PRE-BID CONFERENCE/SITE VISIT: A pre-bid/site visit conference will be held at 10:00 am (AZ TIME), August 18, 2008 at Camp Navajo 1 Hughes Ave, Bellemont AZ 86015. Please ask for directions to the conference room at guard entrance. All potential Offerors are highly encouraged to attend.

FOR QUESTIONS ON THE SCOPE OF WORK: Rick VanDeWater, **TELEPHONE:** (928) 773-3280.

CONTRACT TYPE: FIRM, FIXED PRICE

BUYER: Kathy Eastep **TELEPHONE:** (602) 267-2763

BID ISSUE DATE: August 1, 2008


CORRY SLAMA
As Procurement Officer and Not Personally

NOTE: Map/Location of the DEMA Procurement Office (State) is on the back of this page.

DEMA PROCUREMENT OFFICE

Building #M5330
5636 E. McDowell Road
Phoenix, Arizona

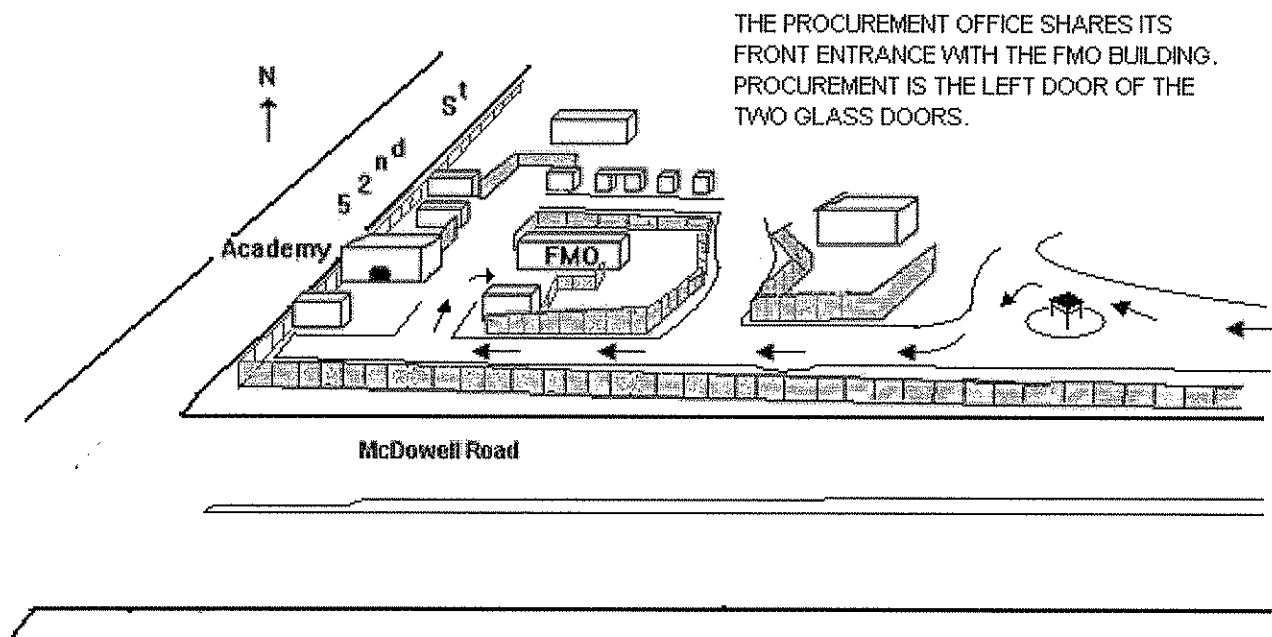
Hours of Operation

Monday - Friday

7:00 AM - 3:30 PM

Location

Access to the DEMA Procurement Office is available off Bushmaster. Bushmaster is approximately ½ mile east of 52nd Street. (Enter base off McDowell Rd., Turn north on Bushmaster and follow the road on the base parallel to McDowell Road.)



FOR QUESTIONS CALL 602-267-2699

TABLE OF CONTENTS

The **documents and forms listed below in boldface type and underlined** must be completed and returned by the Offeror. Other documents may be required. Offerors should carefully review all sections of the Invitation for Bid.

	<u>PAGE</u>
IFB COVER PAGE	1
TABLE OF CONTENTS.....	2
	<u>SECTION</u>
UNIFORM INSTRUCTIONS TO OFFERORS	I
UNIFORM TERMS AND CONDITIONS	II
DEMA SPECIAL TERMS AND CONDITIONS	III
DEMA SPECIAL INSTRUCTIONS	III
<u>OFFER DOCUMENT</u>	<u>ATTACHMENT A</u>
<u>BID PROPOSAL FORM</u>	<u>ATTACHMENT B</u>
<u>CERTIFICATE OF CORPORATE AUTHORITY</u>	<u>ATTACHMENT C</u>
<u>NON-COLLUSION AFFIDAVIT</u>	<u>ATTACHMENT D</u>
<u>SUSPENSION/DEBARMENT AFFIDAVIT</u>	<u>ATTACHMENT E</u>
<u>SMALL, WOMAN-OWNED AND/OR MINORITY-OWNED</u>	
<u>BUSINESSES CERTIFICATION</u>	<u>ATTACHMENT F</u>
SCOPE OF WORK.....	EXHIBIT 1

SECTION I
UNIFORM INSTRUCTIONS TO OFFERORS v 7.1

The State of Arizona's approved Uniform Instructions (**Version 7.1, Dated 05/01/03**) to Offerors/Bidders are incorporated herein by reference and are available for public review and download in Adobe Acrobat format from the following web site:

<http://www.azdoa.gov/spo/procurement-documents/procurement-documents>

A hardcopy of the State of Arizona's approved Uniform Instructions to Offerors/Bidders is available upon request by visiting the Emergency and Military Affairs Procurement Office (State), 5636 E. McDowell Rd., Building M5330, Phoenix, AZ 85008-3495 or by calling (602) 267-2699.

SECTION II
UNIFORM TERMS AND CONDITIONS – Az SPO Form 202, Revision 7

The State of Arizona's approved Uniform Terms and Conditions (**Version 7.0, Dated 05/01/03**) are incorporated herein by reference and are available for public review and download in Adobe Acrobat format from the following web site:

<http://www.azdoa.gov/spo/procurement-documents/procurement-documents>

A hardcopy of the State of Arizona's approved Uniform Terms and Conditions is available upon request by visiting the Emergency and Military Affairs Procurement Office (State), 5636 E. McDowell Rd., Building M5330, Phoenix, AZ 85008-3495 or by calling (602) 267-2699.

SECTION III
SPECIAL INSTRUCTIONS TO BIDDERS/OFFERORS

1. PREPARATION OF BID

- A. All bids shall be submitted on the forms provided in this solicitation package. Copies of these forms are acceptable, however, telegraphic bids, mailgrams, or bids sent by facsimile will not be considered.
- B. The authorized person signing the Offer shall initial (in ink) all erasures, interlineations, or other modifications in its bid.
- C. Bid prices shall be shown in both words and figures. In case of a discrepancy, the amount in words shall prevail. In the case of a mathematical error in extending the prices in its bid, the State will consider only the unit price. No bidder will be permitted to alter, amend, or withdraw its bid after the specified bid due date and time.
- D. Unless otherwise noted, all time periods listed as number of days shall be considered calendar days.
- E. It is the responsibility of each bidder to examine the complete Solicitation package and seek clarification for any items or requirements that may appear to be incorrect, unclear or ambiguous. All responses shall be thoroughly checked by the respective bidding vendor for accuracy and completeness before submission to the State. Negligence in preparing a bid confers no legal right of withdrawal after the due date and time.

2. BID PROPOSAL FORM

For reasons of clarity, all pricing shall be priced for the same unit characteristics (size, volume, quantity, weight, color, etc.) as the bid specifications request unless specifically called for otherwise in the specifications.

Bid pricing must be provided on the price sheet(s) provided in this solicitation. Submissions (bids) failing to comply with this requirement may be declared non-responsive.

3. DUE DATE/COPIES

All bids must be marked with the bid number on the outside of the response envelope and be delivered to: Department of Emergency and Military Affairs, 5636 E. McDowell Rd., Building M5330, Phoenix, AZ 85008-3495.

Invitation for Bids require only one (1) original document and no copies.

SECTION IV

DEMA SPECIAL TERMS AND CONDITIONS

1. **EVALUATION**

A Contract shall be awarded to the lowest, responsible, responsive Offeror whose Bid conforms in all material aspects of the requirements and criteria set forth in this Solicitation.

2. **CALENDAR DAYS**

The Offeror shall state, on the Bid Proposal Form, the least number of calendar days (counting Sundays and holidays) after date of receipt of Notice to Proceed in which they will complete performance. The Offeror shall make any allowance for possible difficulties which may be encountered.

3. **SIMILAR WORK**

Each Bidder shall furnish, upon request, a statement of whether they are now, or have ever been, engaged in work similar to that covered by the Solicitation. Such statement shall include the year in which such work was performed, the manner of its execution, and give such other information as will tend to show the Bidder's ability to prosecute the required work.

4. **CONTRACT APPLICABILITY**

The Contractor shall comply with all requirements found within the text of the Contract and this Solicitation. All previous agreements, Contracts, or other documents, which have been executed between the Contractor and the Department are not applicable to this Solicitation nor any resultant Contract.

5. **VALUE IN PROCUREMENT**

Through the Governor's Efficiency Review initiative the Value in Procurement Committee has been established. A major initiative of the VIP Committee is to aggregate specific procurements to increase efficiency and cut costs. The VIP Committee may designate and establish a statewide contract for these types of goods or services. At such time, this contract may not be extended beyond its original term even though additional contract extensions may still be available.

6. **OFFSHORE PERFORMANCE OF WORK PROHIBITED**

Due to security and identity protection concerns, direct services under this contract shall be performed within the borders of the United States. Any services that are described in the specifications or scope of work that directly serve the State of Arizona or its clients and may involve access to secure or sensitive data or personal client data or development or modification of software for the State shall be performed within the borders of the United States. Unless specifically stated otherwise in the specifications, this definition does not apply to indirect or "overhead" services, redundant back-up services or services that are incidental to the performance of the contract. This provision applies to work performed by subcontractors at all tiers. Offerors shall declare all anticipated offshore services in their bid/proposal.

7. **ELECTRONIC AND INFORMATION TECHNOLOGY**

Any electronic or information technology offered to the State of Arizona under this solicitation shall comply with A.R.S. 41-2531 and 2532 and Section 508 of the Rehabilitation Act of 1973, which requires that employees and members of the public shall have access to and use of information technology that is comparable to the access and use by employees and members of the public who are not individuals with disabilities.

8. **FEDERAL IMMIGRATION LAWS, COMPLIANCE BY STATE CONTRACTORS**

By signing the Offer the Offeror warrants that it and all proposed subcontractors are in compliance with the Federal Immigration and Nationality Act (FINA) and all other Federal immigration laws and regulations related to the immigration status of its employees. The Offeror shall obtain statements from all proposed subcontractors certifying compliance with this requirement and shall furnish the statements to the Procurement Officer upon request.

By entering into the Contract, the Contractor warrants compliance with the Federal Immigration and Nationality Act (FINA) and all other Federal immigration laws and regulations related to the immigration status of its employees. The Contractor shall obtain statements from its subcontractors certifying compliance and shall furnish the statements to the Procurement Officer upon request. These warranties shall remain in effect through the term of the Contract. The Contractor and its subcontractors shall also maintain Employment Eligibility Verification forms (I-9) as required by the U.S. Department of Labor's Immigration and Control Act, for all employees performing work under the Contract. I-9 forms are available for download at USCIS.GOV.

The State may request verification of compliance for any Contractor or subcontractor performing work under the Contract. Should the State suspect find or that the Contractor or any of its subcontractors are not in compliance, the State may pursue any and all remedies allowed by law, including, but not limited to: suspension of work, termination of the Contract for default, and suspension and/or debarment of the Contractor. All costs necessary to verify compliance is the responsibility of the Contractor.

9. **MANUFACTURES NAMES**

Any manufacturer's names, trade names, brand names, or catalogue numbers used in the specifications (if applicable) are for the purpose of describing and establishing the general quality level, design and performance desired. Such references are not intended to limit or restrict bidding by other vendors but are intended to approximate the quality design or performance which is desired. Any bid which proposes like quality, design, or performance will be considered. If the description of your offer differs in any way, you must give a complete detailed description of your Quotation including pictures and literature where applicable. Unless a specific exception is made, the assumption will be that you are bidding exactly as specified on the Request for Quotation.

10. **MATERIAL AND WORKMANSHIP**

Unless otherwise specifically provided for in the specifications, all equipment, materials and articles incorporated in the work covered by the Contract are to be new and of the most suitable grade of their respective kinds for the purpose intended, and all workmanship shall be first class. Where equipment, materials or articles are referred to in the specifications as 'equal to' any particular standard, the Purchasing Officer's Representative (POR) shall decide the question of equality. The Contractor shall furnish to the POR for his approval the name of the manufacturer of machinery, mechanical and other equipment which he contemplates incorporating in the work, together with their performance capacities and other pertinent information. When required by the specifications, or when called for by the POR, the Contractor shall furnish to the POR for approval full information concerning the materials or articles which he contemplates incorporating in the work. Samples of materials shall be submitted for approval when so directed. Machinery, equipment, materials and articles installed or used without such approval shall be at the risk of subsequent rejection. The POR may in writing require the Contractor to remove from the work site such employees as the POR deems incompetent, careless, insubordinate or otherwise objectionable, or whose continued employment on the work site is deemed by the POR to be contrary to the public interest.

11. **RECOVERY OF DAMAGES BY CONTRACTOR FOR DELAY**

Damages related to expenses incurred by the Contractor for a delay for which the Department is responsible, which is unreasonable under the circumstances, and which was not within the contemplation of the parties to the Contract, may be negotiated between the Contractor and the Department, pursuant to Arizona Revised Statutes ' 41-2617.

12. **SAFETY STANDARDS**

All items supplied on the Contract must comply with the current applicable Occupational Safety and Health Standards of the State of Arizona Industrial Commission.

13. **MODIFICATION PROPOSALS PRICE BREAKDOWN**

The Contractor, in connection with any proposal requested for a Contract modification, shall furnish a price breakdown, itemized as required by the Contracting Officer. Unless otherwise directed, the breakdown shall be in sufficient detail to permit an analysis of all material, labor, equipment, subcontract and overhead costs, as well as profit, and shall cover all work involved in the

modification, whether such work was deleted, added or changed. Any amount claimed for subcontracts shall be supported by a similar price breakdown. In addition, if the proposal includes a time extension, a justification therefore shall also be furnished. The proposal, together with a price breakdown and time extension justification, shall be furnished by the date specified by the Contracting Officer.

14. **ESTIMATED SQUARE FOOTAGE**

The square footage(s) shown are estimates only, and the Department reserves the right to increase or decrease amounts as circumstances may require.

15. **NOTICE TO PROCEED**

The Department shall issue a Notice to Proceed or executed Purchase Order for the material or service covered by the Contract. The term of any resultant Contract shall commence on the date of Notice to Proceed or Purchase Order and continue for the period of time indicated in the Contract, unless terminated, canceled or extended as otherwise provided.

16. **INSURANCE REQUIREMENTS**

Contractor and subcontractors shall procure and maintain until all of their obligations have been discharged, including any warranty periods under this Contract, are satisfied, insurance against claims for injury to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

The *insurance requirements* herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. The State of Arizona in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this contract by the Contractor, its agents, representatives, employees or subcontractors, and Contractor is free to purchase additional insurance.

A. MINIMUM SCOPE AND LIMITS OF INSURANCE: Contractor shall provide coverage with limits of liability not less than those stated below.

1. Commercial General Liability – Occurrence Form

Policy shall include bodily injury, property damage, personal injury and broad form contractual liability coverage.

- General Aggregate \$2,000,000
- Products – Completed Operations Aggregate \$1,000,000
- Personal and Advertising Injury \$1,000,000
- Blanket Contractual Liability – Written and Oral \$1,000,000
- Fire Legal Liability \$ 50,000
- Each Occurrence \$1,000,000

- a. The policy shall be endorsed to include the following additional insured language: ***“The State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees shall be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of the Contractor”.***
- b. Policy shall contain a waiver of subrogation against the State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Contractor.

2. Business Automobile Liability

Bodily Injury and Property Damage for any owned, hired, and/or non-owned vehicles used in the performance of this Contract.

Combined Single Limit (CSL) \$1,000,000

- a. The policy shall be endorsed to include the following additional insured language: ***“The State of Arizona, its departments, agencies, boards, commissions, universities***

and its officers, officials, agents, and employees shall be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of the Contractor, involving automobiles owned, leased, hired or borrowed by the Contractor".

3. Worker's Compensation and Employers' Liability

Workers' Compensation	Statutory
Employers' Liability	
Each Accident	\$ 500,000
Disease – Each Employee	\$ 500,000
Disease – Policy Limit	\$1,000,000

- a. Policy shall contain a waiver of subrogation against the State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Contractor.
- b. This requirement shall not apply to: Separately, EACH contractor or subcontractor exempt under A.R.S. 23-901, AND when such contractor or subcontractor executes the appropriate waiver (Sole Proprietor/Independent Contractor) form.

B. ADDITIONAL INSURANCE REQUIREMENTS

The policies shall include, or be endorsed to include, the following provisions:

1. The State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees wherever additional insured status is required such additional insured shall be covered to the full limits of liability purchased by the Contractor, even if those limits of liability are in excess of those required by this Contract.
2. The Contractor's insurance coverage shall be primary insurance with respect to all other available sources.
3. Coverage provided by the Contractor shall not be limited to the liability assumed under the indemnification provisions of this Contract.

C. NOTICE OF CANCELLATION

Each insurance policy required by the insurance provisions of this Contract shall provide the required coverage and shall not be suspended, voided, canceled, or reduced in coverage or in limits except after thirty (30) days prior written notice has been given to the State of Arizona. Such notice shall be sent directly to **Arizona Department of Emergency and Military Affairs, 5636 E. McDowell Rd., Bldg. M5330, Phoenix, AZ 85008.** and shall be sent by certified mail, return receipt requested.

D. ACCEPTABILITY OF INSURERS

Insurance is to be placed with duly licensed or approved non-admitted insurers in the state of Arizona with an "A.M. Best" rating of not less than A- VII. The State of Arizona in no way warrants that the above-required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

E. VERFICATION OF COVERAGE

The awarded Contractor shall furnish the State of Arizona with certificates of insurance (ACORD form or equivalent approved by the State of Arizona) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

All certificates and endorsements are to be received and approved by the State of Arizona before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Contract, or to provide evidence of renewal, is a material breach of contract.

All certificates required by this Contract shall be sent directly to **Department of Emergency and Military Affairs, 5636 E. McDowell Rd., Bldg. #M5330, Phoenix, Az. 85008.** The State of

Arizona project/contract number and project description shall be noted on the certificate of insurance. The State of Arizona reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time. **DO NOT SEND CERTIFICATES OF INSURANCE TO THE STATE OF ARIZONA'S RISK MANAGEMENT SECTION.**

F. SUBCONTRACTORS

Contractors' certificate(s) shall include all subcontractors as insureds under its policies **or** Contractor shall furnish to the State of Arizona separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to the minimum requirements identified above.

G. APPROVAL

Any modification or variation from the *insurance requirements* in this Contract shall be made by the Department of Administration, Risk Management Section, whose decision shall be final. Such action will not require a formal Contract amendment, but may be made by administrative action.

H. EXCEPTIONS

In the event the Contractor or sub-contractor(s) is/are a public entity, then the Insurance Requirements shall not apply. Such public entity shall provide a Certificate of Self-Insurance. If the contractor or sub-contractor(s) is/are a State of Arizona agency, board, commission, or university, none of the above shall apply.

ATTACHMENT A -- OFFER & ACCEPTANCE DOCUMENT

STATE OF ARIZONA DEPARTMENT OF EMERGENCY AND MILITARY AFFAIRS INVITATION FOR BID NUMBER: M8-0066

Submit the ORIGINAL of this attachment to the Department Procurement Office

TO: Procurement Manager, Department Procurement Office (State)

The Undersigned hereby offers and agrees to furnish the construction in compliance with all terms, conditions, drawings, specifications and addenda. By signing this attachment the undersigned also understands and will comply with the Instructions to Offerors. Furthermore, in accordance with A.R.S. § 35-397, the offeror hereby certifies that the offeror does not have scrutinized business operations in Iran and/or Sudan.

Arizona Transaction (Sales) Privilege Tax License No.:	Point of contact for questions concerning this offer:
Federal Employer Identification No.:	Name:
Commercial Contractor's License No:	Telephone No.:
Company Information:	Fax No.:
Company Name:	Email Address:
Street Address	Authorized signature:
Street Address	Printed Name:
City State Zip	Title
Company Email Address:	Signature

ACCEPTANCE OF OFFER AND CONTRACT AWARD

When signed below, your Bid is hereby accepted. The Contractor is now bound to perform based upon the solicitation and the Contractor's bid as accepted by the State. This Contract shall be referenced by Contract No. **M8-0066**

You are cautioned not to commence any billable work or provide materials/services under this Contract until having received an executed Purchase Order or Notice to Proceed letter.

<p style="text-align: center;">AZ. DEPT. OF EMERG. & MILIARY AFFAIRS</p> <p style="text-align: center;">Awarded the ____ day of _____, 2008</p> <p style="text-align: center;">_____ Corry Slama, C.P.M., CPPB As Procurement Manager & Not Personally</p>
--

ATTACHMENT B
BID PROPOSAL FORM
M8-0066

Sealed Bids will be received until **2:00 pm (AZ TIME), August 26, 2008**, in the Department Procurement Office (State), Building #M5330, 5636 East McDowell Road, Phoenix, Arizona 85008-3495. Bids will be opened in Building #M5330.

Having carefully examined the premises and conditions affecting this work, the Offeror proposes to provide all labor, supplies, material, applicable taxes, transportation, and services required to complete **Igloo Waterproofing**, in strict conformity with all provisions of the Solicitation for the following:

1. BASE BID, FIRM, FIXED PRICE OF:

\$ _____ (\$ _____)

2. ADDITIVE BID ITEM (ABI), FIRM, FIXED PRICE OF:

\$ _____ (\$ _____)

PAYMENT TERMS:

Net _____ Days or Prices quoted herein can be discounted by _____% if payment is made within _____ days of invoice receipt.

The Offeror agrees to complete all of the work under the contract within Sixty (60) calendar days from the date of purchase order or notice to proceed.

The Offeror is familiar with all the provisions of this Solicitation, local conditions and has carefully checked the figures comprising his bid.

The Department of Emergency and Military Affairs is not be responsible for any errors or omissions on the part of the Offeror.

This bid may not be withdrawn for a period of ninety (90) days after the bid opening date.

ATTACHMENT C
CERTIFICATE OF CORPORATE AUTHORITY

Offerors must provide the following information:

A Corporation existing under the laws of the State of _____; or

A Partnership consisting of _____; or

An Individual trading as _____.

If your firm is a corporation, completion of the following certification is mandatory. **(NOTE: THE CERTIFICATE MUST BE COMPLETED BY AN OFFICER OF THE CORPORATION AND WHO DID NOT SIGN THE OFFER PAGE).**

I, _____, certify that I am the _____
of the Corporation named as Offeror herein; that _____ signed this
Bid on behalf of the Corporation, was then the _____ of said
Corporation; that said Bid was duly signed for and in behalf of said Corporation by authority of its
governing body, and is within the scope of its corporate powers.

CORPORATE OFFICER
(Signature)

STATE OF ARIZONA)
)
COUNTY OF _____)

Of _____, the Person, Corporation, or Company
(Firm Name)

"That such Bid is genuine and is not sham or collusive, or made in the interest or behalf of any person not herein named, and that the Offeror has not directly or indirectly induced or solicited any other Offeror to put in a sham Bid, or any other Person, Firm or Corporation to refrain from bidding, and that the Offeror has not in any manner sought by collusion to secure for itself an advantage over any other Offeror."

(Firm Name)

By: _____

(Title)

Subscribed and sworn to before me this _____ day of _____, 20__.

My Commission Expires: _____
(Date) (Notary Public)

ATTACHMENT E

SUSPENSION/DEBARMENT AFFIDAVIT

(Required only for offers over \$100,000)

STATE OF ARIZONA)
)
COUNTY OF _____)

_____, Affiant,
(Name) (Title)

of _____, the Person, Corporation, or Company who make the accompanying
(Firm Name)

Bid, having first been sworn, deposes and says:

“That the Firm, Business or person submitting an offer is not debarred, suspended or otherwise lawfully precluded from participating in any public procurement activity, including being disapproved as a subcontractor with any Federal, State or local government.

It is agreed that if any such preclusion from participation from any public procurement activity is currently pending, the Offeror must fully explain the circumstances relating to the preclusion or proposed preclusion. If awarded, the offeror must include a letter with its offer setting forth the name and address of the governmental unit, the effective date of this suspension or debarment, the duration of the suspension or debarment, and the relevant circumstances relating to the suspension or debarment. If suspension or debarment is currently pending, a detailed description of all relevant circumstances including the details enumerated above must be provided."

(Firm Name)

By: _____
(Signature)

(Title)

Subscribed and sworn to before me this _____ day of _____, 20_____.

My Commission Expires: _____
(Date) (Notary Public)

ATTACHMENT F

SMALL, WOMAN-OWNED AND/OR MINORITY-OWNED BUSINESS CERTIFICATION

Executive Order 2004-29 requires all State of Arizona agencies to track and report solicitations distributed and awarded to Small, Woman-Owned and/or Minority-Owned firms.

A small business is one that, including its affiliates, is independently owned and operated, is not dominant in the type of business it conducts, and employs fewer than 100 employees OR has less than \$4 million in annual sales. To qualify as a minority or women-owned business, the firm must be at least 51% minority or woman owned.

When practical, purchases/contracts less than \$50,000 will be made from small businesses.

CHECK THE APPROPRIATE CLASSIFICATION APPLICABLE TO YOUR FIRM:

<ul style="list-style-type: none"><input type="radio"/> 1.0 Small Business (SB)<input type="radio"/> 2.0 Small Business- African American (SBAA)<input type="radio"/> 3.0 Small Business- Asian (SBA)<input type="radio"/> 4.0 Small Business- Hispanic (SBH)<input type="radio"/> 5.0 Small Business- Native American (SBNA)<input type="radio"/> 6.0 Small Business- Other (SBO)<input type="radio"/> 7.0 Small, Woman Owned Bus. (SWOB)<input type="radio"/> 8.0 Small, Woman Owned Bus.- African American (SWOBAA)<input type="radio"/> 9.0 Small, Woman Owned Bus.- Asian (SWOBA)<input type="radio"/> 10.0 Small, Woman Owned Bus. Hispanic (SWOBH)<input type="radio"/> 11.0 Small, Woman Owned Bus. Native American (SWOBNA)<input type="radio"/> 12.0 Small, Woman Owned Bus. Other (SWOBO)	<ul style="list-style-type: none"><input type="radio"/> 13.0 Woman Owned Business (WOB)<input type="radio"/> 14.0 Woman Owned Bus. African American (WOBAA)<input type="radio"/> 15.0 Woman Owned Bus. Asian (WOBA)<input type="radio"/> 16.0 Woman Owned Bus. Hispanic (WOBH)<input type="radio"/> 17.0 Woman Owned Bus. Native American (WOBNA)<input type="radio"/> 18.0 Woman Owned Bus. Other (WOBO)<input type="radio"/> 19.0 Minority Owned Bus. African American (MAA)<input type="radio"/> 20.0 Minority Owned Bus. Asian (MA)<input type="radio"/> 21.0 Minority Owned Bus. Hispanic (MHA)<input type="radio"/> 22.0 Minority Owned Bus. Native American (NA)<input type="radio"/> 23.0 Minority Owned Bus. Other (MO)
<input type="checkbox"/> 24.00 (NONE) None of these categories is applicable and firm does not qualify as either a Small, Woman, or Minority-Owned firm.	

Company Name: _____

Address: _____

City: _____ State: _____ Zip Code _____

I hereby certify that _____ (Firm/Company Name) ☐ is or ☐ is not (check one) a small business with less than 100 employees and/or less than \$4 million in annual sales.

Signature _____ Date _____

I hereby certify that _____ (Firm/Company Name) ☐ is or ☐ is not (check one) a Minority and/or Women (circle one or both) Owned Business in accordance with Executive Order 2004-29 issued by Governor Napolitano.

Signature _____ Date _____

PROJECT SPECIFICATIONS

DEPARTMENT OF EMERGENCY AND MILITARY AFFAIRS

IGLOO WATERPROOFING

H-102, H-115, H-151, H-153, H-165, C-425

And G-102, G-107, G-112

ARIZONA NATIONAL GUARD

CAMP NAVAJO

BELLEMONT, ARIZONA

PROJECT NO.

**Arizona Army National Guard, Camp Navajo
#1 Hughes Avenue, Bellemont, Arizona 86015-6123
Point of Contact: Rick VanDeWater
Telephone Numbers: (928) 773-3280; Fax (928) 773-3321**

TABLE OF CONTENTS

DIVISION 1	GENERAL REQUIREMENTS
SECTION 01010	SUMMARY OF WORK
PART 1 – GENERAL	
1.0	SUMMARY
1.1	LUMP SUM CONTRACT
1.2	BASE BID
1.3	ADDITIVE BID ITEM (ABI)
1.4	GOVERNMENT RESPONSIBILITIES
1.5	CONTRACTORS USE OF PREMISIS
1.6	REFERENCES
1.7	DEFINITIONS
SECTION 01141	WORK RESTRICTIONS AND SPECIAL PROVISIONS
PART 1 – GENERAL	
1.0	SPECIAL SCHEDULING REQUIREMENTS
1.1	CONTRACTOR ACCESS AND USE OF PREMISES
1.2	OCCUPIED AND EXISITING BUILDINGS
1.3	SECURITY REQUIREMENTS
1.4	OCCUPANCY REQUIREMENTS
1.5	ENVIRONMENTAL COMPLIANCE
1.6	PRE-BID SITE VISIT
1.7	PRE-CONSTRUCTION CONFERENCE
1.8	QUALITY ASSURANCE
SECTION 01340	SUBMITTALS
PART 1 – GENERAL	
1.0	SHOP DRAWINGS
1.1	GEOMEMBRANE-MANUFACTURERS (MQC)
1.2	GEOMEMBRANE SAMPLE
1.3	QUALIFICATIONS
SECTION 01600	MATERIAL AND EQUIPMENT
PART 1 – GENERAL	
1.0	PRODUCT DELIVERY, STORAGE AND HANDLING
1.1	GEOMEMBRANE MATERIAL
1.2	PACKAGING
1.3	ON-SITE CONDITIONS
1.4	GEOMEMBRANE PLACEMENT
1.5	SEAMING SPECIFICATIONS
1.8	GEOMEMBRANE PENETRATION BOOTS
1.9	AIR LANCE TESTING
1.10	IDENTIFICATION OF DEFECTS

- 1.11 EVALUATION OF DEFECTS
- 1.12 LINER ACCEPTANCE
- 1.13 DISPOSAL OF SCRAP MATERIALS
- 1.14 GOVERNMENT RESPONSIBILITIES

SECTION 01770 CONTRACT CLOSEOUT

PART 1 – GENERAL

- 1.1 SUMMARY
- 1.2 CLEANING
- 1.3 WARRANTY/GUARANTEE
- 1.4 INSTRUCTION

DIVISION 2 SITEWORK

SECTION 02920 - LAWNS AND GRASSES

PART 1 – GENERAL

- 1.1 SUMMARY
- 1.2 DEFINITIONS
- 1.3 SUBMITTALS
- 1.4 QUALITY ASSURANCE

PART 2 – PRODUCTS

- 2.1 SEED
- 2.2 WOOD FIBER MULCH
- 2.3 CHEMICAL FERTILIZER
- 2.4 TACKIFIER
- 2.5 WATER

PART 3 – EXECUTION

- 3.1 GENERAL
- 3.2 PREPARATION
- 3.3 APPLICATION
- 3.4 MAINTENANCE

DIVISION 3 CONCRETE

NONE IN THIS CONTRACT

DIVISION 4 MASONRY

NONE IN THIS CONTRACT

DIVISION 5 METALS

NONE IN THIS CONTRACT

DIVISION 6 WOOD AND PLASTIC

NONE IN THIS CONTRACT

DIVISION 7 THERMAL AND MOISTURE PROTECTION

NONE IN THIS CONTRACT

DIVISION 8 DOORS, WINDOWS, GLASS

NONE IN THIS CONTRACT

DIVISION 9 FINISHES

NONE IN THIS CONTRACT

DIVISION 10 SPECIALTIES

NONE IN THIS CONTRACT

DIVISION 11 EQUIPMENT

NONE IN THIS CONTRACT

DIVISION 12 FURNISHINGS

NONE IN THIS CONTRACT

DIVISION 13 SPECIAL CONSTRUCTION

NONE IN THIS CONTRACT

DIVISION 14 CONVEYING SYSTEMS

NONE IN THIS CONTRACT

DIVISION 15 MECHANICAL

NONE IN THIS CONTRACT

DIVISION 16 ELECTRICAL

NONE IN THIS CONTRACT

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01010 SUMMARY OF WORK

PART 1 - GENERAL

1.0 Summary

- 1.1 Construct the work as specified under a firm fixed price. Performance period after the Notice To Proceed (NTP) for this contract is 60 days. Expected start date for this work is September 8, 2008.
- 1.2 BASE BID: The Work consists of the removal of earth overburden, removal of existing shotcrete, existing drainage system and igloo surface preparation (by others). The contractor shall provide all services, to include material, labor, tools, equipment, transportation, supervision and other items necessary for the installation of new PVC geomembrane, non-woven geotextile fabric and associated anchoring systems as described in the Contract Documents.
- 1.3 ADDITIVE BID ITEM (ABI): The work consists of hydro seeding nine (9) earth covered igloos as described in the Contract Documents. The contractor shall provide all services, to include material, labor, tools, equipment, transportation, supervision and other items necessary for the preparation of the soil, applying seed-mulch mixtures and maintaining seeded areas during establishment period in accordance with plans and specifications. The Purchasing Officers Representative (POR) may adjust the schedule and make minor adjustments to the locations of the seeding operations within the limits of the project. The POR shall establish exact dates to commence seeding and reserves the right to postpone seeding until conditions are suitable.
- 1.4 Owners Responsibilities: The owner will be installing a new center support plate over the igloo barrels for a new air terminal installation. This support plate and air terminal are only required on 80 foot igloos. The above mentioned earth removal, lightning protection installation and recovering of the igloo and new membrane with earthen materials are owners responsibilities. All other activities associated with the PVC membrane installation are the contractors responsibilities.
- 1.5 Contractor's Use of Premises: During construction, Contractor shall have full use of site indicated. Contractor's use of premises is limited only by Owner's right to perform work or employ other contractors on portions of Project and as follows: Work coordination between contractor is essential. The other taskings which will be performed by others are backfilling, compaction and re-seeding.

1.6 References

- A. ASTM D4437, “*Standard Practice for Determining the Integrity of Field Seams Used in Joining Flexible Polymeric Sheet Geomembranes*”, American Society for Testing and Materials, West Conshohocken, Pennsylvania, USA.
- B. ASTM D6214, “*Standard test method for determining the integrity of field seams used in joining geomembranes by chemical fusion methods*”, American Society for Testing and Materials, West Conshohocken, Pennsylvania, USA
- C. ASTM D7177, “*Standard test method for air-channel testing of field PVC Geomembrane Seams*”, American Society for Testing and Materials, West Conshohocken, Pennsylvania, USA.
- D. PVC Geomembrane Institute (PGI), 2004, “PVC Geomembrane Material Specification 1104”, University of Illinois, Urbana, IL, www.pvcgeomembrane.com, January 1, 2004.

1.7 DEFINITIONS

- A. Minimum Value – Property value representing the lowest individual allowable value obtained when tested according to the specified test method. This applies to individual readings, such as thickness; or where only one specimen is tested for the specified parameter.
- B. Minimum Average Value – Property value representing the lowest allowable value for the average of results for the specimens tested.
- C. Nominal Value – Property value that is representative of a measurable property, determined under a set of prescribed test conditions, by which a product may be described.
- D. Lot - For the purposes of this project, a “Lot” will be defined as a single run of geo synthetic material from the same production facility, where the tooling and raw materials of production have not changed during manufacturing.
- E. Roll - A quantity geomembrane rolled up to form a single package as supplied from the manufacturer.
- F. Sheet - A part of the manufactures geomembrane material cut from the roll.
- G. Panel - A series of geomembrane sheets fabricated together to make a large runit, as supplied by a fabricator usually folded onto a pallet or folded then rolled on a core.
- H. Manufacturer - A company that takes raw materials and calendars or extrudes them into geomembrane rolls.
- I. Fabricator - a company that converts geomembrane rolls into panels
- J. Installer – a company that installs PVC geomembrane panels in field applications.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01110

SECTION 01141 WORK RESTRICTIONS AND SPECIAL PROVISIONS

PART 1 GENERAL: References to the COR or POR in this section shall generally mean the Camp Navajo Facilities Engineering (CN FE) office. In some cases, the Contracting or Purchasing Officer may designate a different single point of contact.

- 1.0 SPECIAL SCHEDULING REQUIREMENTS: **See other sections for specific information regarding scheduling requirements, milestone dates and project completion dates.**
- 1.1 CONTRACTOR ACCESS AND USE OF PREMISES: Contractor shall ensure that personnel employed on Camp Navajo become familiar with this section of the contract documents and obey Camp Navajo regulations. Keep within the limits of the work and avenues of ingress and egress as directed. Do not enter restricted areas unless required to do so and until cleared for such entry.
 - A. Access to Camp Navajo by Contractor Personnel
 1. Access to Limited Area:
 - a. Access Badge and Escort Requirements: The Contractor will be responsible to provide escort for all personnel required to be down-range (in the limited area), including delivery vehicle operators. The Contractor will be issued up to five "No Escort Required" badges (NER) and subcontractors will be allowed to have two to five NERs based on numbers of personnel, crew size and activities. The remaining personnel will be issued "Escort Required" badges. This includes equipment and delivery vehicle operators and personnel from organizations that are not performing work on the down-range facilities. CN will give special consideration to drivers of time constrained materials such as hot asphalt and ready-mix Portland Cement concrete. For the purpose of this paragraph, a subcontractor is meant as an organization that is engaged in performing on-site work on a regular basis within the project location. All Contractor access badges shall be surrendered to security upon departing "down-range". Badges will be issued by surrendering a picture ID such as a valid driver's license at the security checkpoint, generally Post #3.
 - b. Identification of Employees: The Government shall provide each of the Contractor's employees a Security Access Badge of either the "ESCORT REQUIRED" or "NO ESCORT REQUIRED" type before entry into the Limited Area is permitted. Contractor shall ensure that all employees Visible Display the Security Access Badge while performing work inside the Limited Area. Badges are to be secured at Post #3 or Bldg 8 when contractor personnel depart the limited area. Badges are NOT TO BE REMOVED FROM CAMP NAVAJO. Contractor shall ensure that personnel employed on Camp Navajo become familiar with and obey Camp Navajo regulations. Keep within the limits of the work

and avenues of ingress and egress as directed. Do not enter restricted areas unless required to do so and until cleared for such entry.

- c. Obtaining Access Badges: Not less than thirty (30) working days prior to the commencement of work at Camp Navajo by any employee of the Contractor or any subcontractor, the project superintendent shall submit to Camp Navajo, in writing, the following information on each employee: name, social security number, date of birth, local address, company and type of Security Access Badge requested ("ESCORT REQUIRED" or "NO ESCORT REQUIRED"). Contractor/subcontractor personnel who are to be issued badges shall, on the day of access, produce and surrender a Government Issued picture ID card prior to receipt of an access badge.
- d. Contractor personnel, including subcontractor personnel, shall complete and submit questionnaires or other forms as may be required for security purposes. Any individual who is subsequently found by the FBI or Defense Investigative Service to be ineligible will have his/her "NO ESCORT REQUIRED" access privileges immediately revoked. Badges and the accompanying Camp Navajo Pass shall be turned in nightly at the Security Office, Building #8, or Post #3 as designated by Camp Navajo personnel. Badges and passes will be reissued to the respective individuals the following work day. Matches of any type and lighters of any type (including vehicle lighters) are prohibited in the Limited Area.
- e. Lost Badges: Contractor employees, to include all subcontractor, suppliers, and delivery personnel issued badges, shall promptly report loss or destruction of their Security Access Badges to the Security Office. A lost badge affidavit will be completed by the losing individual describing the circumstances of loss/destruction. New badges will be issued by the Security Office in accordance with the written procedures of Camp Navajo, with replacement cost of ten dollars (\$10.00) per badge to be borne by the Contractor. Cost of replacement badge(s) will be deducted from final payment to the Contractor.

- B. Lost and Found Property: It is the responsibility of the Contractor to ensure that all articles of possible personal or monetary value found by his employees are turned into Installation Security office or the office of the Camp Navajo Facilities Engineering (CNFE).
- C. Interruption of Services: The contractor shall coordinate at least 15 days in advance with CN DE for any interruption of utilities or roads. No later than three working days prior to such interruption, the contractor shall notify CN DE in writing of the proposed interruption. The contractor shall provide required and adequate markings or warnings regarding such closures.
- D. Smoking: Smoking in the limited area or "down-range" is strictly prohibited. Smoking in other areas shall be closely monitored. There shall be no smoking in any facility on the installation except in those so designated as a smoking area.
- E. Fires: All activities producing flames or sparks such as welding, grinding, and soldering require a flame or burn permit. Burning of trash or other materials is prohibited. This applies to work performed anywhere on Camp Navajo.

- F. Photography: All cameras require a permit. There shall be no unauthorized photography.
- G. Working Hours: Normal working hours shall be a 40-hour week consisting of not fewer than four 10-hour days during the period Monday through Thursday, 7:00 A.M. to 5:30 P.M. with State and Federal holidays included in the 40 hours at 8 hours each. The Contractor shall have a designated superintendent or other person(s) designated to act in behalf of the Contractor on site or available within 15 minutes at all times when Contractor or subcontractor delivery, or other personnel are on-site or scheduled to be on-site. Government personnel including CN DE personnel will not issue receipts for materials, services or equipment being delivered to or provided at the work-site.
- H. Contractor's Trailer/Office: If the Contractor determines that a temporary building (office, trailer, etc.) is required to complete the project then the CN DE shall be notified to coordinate location, utility hookup, etc. during the pre-construction meeting. The contractor site is located to the southwest of the National Weather Service building and North of the fence line. Utility requirements shall be coordinated with CN DE for hookup. Utility hookups will be completed by Facilities Engineering personnel unless otherwise approved by CN DE. A meter will be installed for each utility and the Contractor will be billed monthly for each utility service provided. If no meter is provided the contractor will be billed a flat rate per month.
- I. Permits: There are no charges for these permits.
 - 1. Heat/Flame-Producing Permit: Obtain permit from Camp Navajo Fire Department prior to using any heat/flame-producing tools or equipment. After the permit is issued by the Fire Department, it will be approved or disapproved by the Camp Navajo Safety Officer and Quality Assurance Officer.
 - 2. Excavation Permit: Obtain permit from Camp Navajo Facilities Engineering prior to commencing any excavation work. Coordinate this activity through CN DE at least 72 hours prior to any required excavation. Facilities Engineering will locate utility lines prior to any excavation work.
 - 3. Camera Permits: Camera permits are required for any and all photography down-range (Limited Area). Permit shall be obtained from the Office of the Garrison Commander. At least three working days prior to needing the permit, the contractor shall submit the following information to the CN DE; full name of the photographer, Social Security Number, date of birth, company name, make and model of camera, serial number of camera and dates camera will be required.
- J. Utilities
 - 1. Non-potable water: Non potable water shall be available from either Pond #1 or Pond #3. Pond #1 may be a source of non-potable water if the contractor exercises great care so as not to contaminate the pond as it is an ultimate source of drinking water for Camp Navajo. The contractor shall furnish all necessary material and equipment to remove the water from either pond. The contractor shall provide all emergency equipment per CN fire department and environmental compliance materials and equipment. IF Camp Navajo allows the contractor to draw water from Pond #1, the

contractor shall pump from the southwest corner. At Pond #1, the contractor shall not conduct pumping operations within the posted boundary about 30' from the pond edge, and all fueled equipment shall be kept from a location where a spill could contaminate the pond. At Pond #3 the contractor shall take precautions so as not to contaminate the water.

2. Potable Water: Potable water for construction purposes may be obtained from the fire hydrant at the southwest corner of Building 2 (or other designated and agreed upon fire hydrant on Camp Navajo). The contractor shall provide all necessary equipment to draw water. This shall include at a minimum, a double check, backflow device with a valid inspection tag prior to use. The contractor shall notify the Camp Navajo Director of Engineering (CN DE), or other designated Camp Navajo personnel, at least 72 hours prior to start of water drawing operations. Camp Navajo may charge for the use of such water.
3. Wastewater: No wastewater or any liquid contaminant from construction activity shall be disposed into the Camp Navajo wastewater collection system, either directly or indirectly. The contractor shall collect and remove all such liquid waste from Camp Navajo and dispose of properly in accordance with all applicable rules and regulations.
4. Electrical: Camp Navajo personnel shall complete all power connections up to the service panels provided by Camp Navajo. The contractor shall notify the CN DE office at least three working days prior to the desired time of connection (at a location previously approved for such connections). If the location is metered, Camp Navajo shall bill the contractor monthly at the same rate billed to other on-site customers. If not metered, Camp Navajo shall bill the contractor monthly at a flat rate.
5. Interruption of Services: Permission to interrupt any Camp Navajo roads, railroads or utility services shall be coordinated up to 15 calendar days in advance and shall be requested in writing no later than three work days prior to the desired date of interruption. The Contractor's equipment shall be conspicuously marked for identification.
6. Communications: Camp Navajo shall not provide telephone connectivity unless available nearby and shall install telephone connections at the contractor's expense.

1.2 OCCUPIED AND EXISTING BUILDINGS

The Contractor will be working in and around existing buildings. Do not enter buildings without prior approval from CN DE. The Contractor shall accept responsibility for the materials and equipment stored on Camp Navajo. The Contractor shall coordinate with the POR or COR regarding storage areas on Camp Navajo. Generally, Camp Navajo will permit the contractor and subcontractors to use areas as close to the work site as practicable considering the mission. This includes areas for storage of material and equipment, dumpsters and other trash containers, sanitation facilities, fuel points, and the like. In all cases, the Contractor shall be responsible to maintain the area for trash, garbage, and construction debris, and to provide any warning signs, fire extinguishers, MSDS's, and other items that may be required by CN regulations for storage "down-range". The Contractor and CN FE shall conduct a condition survey of each area turned over to the Contractor prior to the Contractor using

the areas. The Contractor shall be responsible to restore the area(s) to as close to original condition as practicable before leaving the area(s). See paragraph 1.1.H for administrative space for contractors

1.3 SECURITY REQUIREMENTS

- A. Vehicle Requirements: Contractor's, subcontractor's, and employees' vehicles shall be in good working order and licensed for travel over public roads. All original equipment such as lights, exhaust system, brakes, tires, windshield, windshield wipers, and seat belts, shall be in good working condition. Each vehicle shall carry a fully charged fire extinguisher (2.5-lb. minimum, ABC, dry-type). All personnel operating vehicles shall have a current driver's license. Registration and proof of insurance shall be carried in the vehicle at all times. Only company-owned vehicles will be allowed "down-range" (no privately owned vehicles). A list of vehicles to be used shall be furnished to Camp Navajo Security, to include company, vehicle operator(s), vehicle description and license number.
1. Contractor and subcontractor personnel shall not take any of the following items into Camp Navajo and where indicated into the Limited Area:
 - a. Firearms (firearms will not be stored by Camp Navajo security personnel) – all of Camp Navajo
 - b. Alcoholic beverages of any type – all of Camp Navajo
 - c. Cigarette lighters or flame-producing devices – Limited area only
 - d. Cameras, unless a signed, written permit has been issued by the Camp Navajo Commander – Limited Area only
 - e. Drugs of other than a prescription-type (prescription drugs shall be in original containers) shall not be brought onto Camp Navajo.
 - f. Ammunition, explosives, explosive devices, fireworks and similar type items are prohibited on Camp Navajo unless specifically authorized in writing by Camp Navajo and necessary and essential for accomplishment of the work to be performed.
 2. Personnel, personal equipment, construction equipment, and vehicles entering Camp Navajo and the Limited Area are subject to search at any time. Security personnel will search all vehicles entering and exiting the Limited Area. Vehicle operator has the responsibility for raising hood to engine compartment and opening covers to all other compartments on vehicle. Contractor personnel will experience some delays because of this.
- B. Identification of Contractor Vehicles: Each Contractor-provided vehicle and towed trailer shall show the Contractor's name so that it is clearly visible on both front doors of the vehicle and both sides of a towed trailer and shall at all times display a valid State license plate and safety inspection sticker, or the Contractor may furnish a clearly legible identification sign mounted on the dashboard of the vehicle identifying the company and operator. Privately owned vehicles shall not be allowed "down-range" at any time. Contractor vehicles operated on Government property shall be maintained in a good state of repair.
- C. Traffic Regulations: Personnel are subject to all traffic regulations of Camp Navajo. Upon request by the Contractor, a copy of the Camp Navajo traffic regulations will be provided. Use of seat belts by all operators and passengers on Camp Navajo is mandatory. Speed limit "down-range" is a maximum of 35 mph unless posted for a lower speed. Violators may be allowed one warning, after which the operator will

not be allowed to drive down range. The contract shall at all times yield the right-of-way to all explosive laden vehicles.

- D. Contractor Supply and Delivery: Contractor's supply and delivery truck drivers and co-drivers entering Camp Navajo to deliver or pick up items shall report to the Access Control Point (ACP), Post 3. From there the drivers will be directed to the proper destination. Those drivers and co-drivers who are required to enter the Limited Area will be issued "Escort Required" badges. A Contractor's employee will escort the drivers to the job site, and their vehicles will be inspected by security personnel for contraband, weapons, or other items identified by the Camp Navajo Commander. Weapons belonging to long-haul truck drivers will be secured in the contraband room at Post No.3 during the time drivers are inside the Limited Area.
- E. Security of Contractor's Vehicles, Storage Containers, Tools and Temporary Administrative Spaces: the contractor shall be responsible for securing the work sites on Camp Navajo. The contractor shall secure tools and workboxes, storage containers and structures, vehicles and administrative facilities, temporary or permanent, at the end of each work period. If such vehicles or equipment cannot be secured (locked), the contractor shall ensure that unauthorized personnel cannot operate the equipment or vehicle. The contractor shall maintain keys or other access means in a secured and controlled location. The contractor shall ensure that lights and equipment are off unless required for the performance of the work. If equipment such as space heaters, air compressors and lights must remain on when the area is not attended, notify the Camp Navajo purchasing (or contracting) officer's representative and leave a note before departing the work site(s). Camp Navajo security personnel may confiscate keys if left in vehicle and secure the doors where possible. Camp Navajo personnel may shut down equipment and turn off lights if there is no readily apparent reason that said equipment remain on. The contractor or agent thereof shall not hold Camp Navajo responsible for theft or other disappearance of tools or equipment not secured.
- F. Contractor personnel working in the Limited Area will travel directly to and from Post 3 and the work area. Contractor personnel are only authorized to be in the pre-designated work area. Contractor personnel are prohibited from all other areas in the Limited Area unless specifically authorized by Camp Navajo.
- G. Contractor personnel are prohibited from approaching any Camp Navajo operation in the Limited Area without prior expressed authorization and necessity to be at that operation and then only with permission from Camp Navajo operations on-site supervisor.
- H. Camp Navajo may require that contractor personnel temporarily halt operations for limited periods in certain areas of the Limited Area for Camp Navajo to conduct necessary operations.

1.4 OCCUPANCY REQUIREMENTS

- A. Camp Navajo will remain in operation during the entire construction period and the Contractor shall conduct his operations so as to cause the least possible interference with the normal operations of the activity.
- B. Ensure that new utility lines are complete, except for the connection, before interrupting existing service.

- C. Interruption to Telephone Service, Electric Service, and Fire Alarm. These shall be considered utility cut-overs pursuant to the paragraph entitled "Work Outside Regular Hours." This limit includes time for deactivation and reactivation.

1.5 ENVIRONMENTAL COMPLIANCE

- A. General Protection of Land and Cultural Resources: The Contractor shall confine his construction activities to areas defined on the drawings unless prior written approval is granted by CN DE. The land and cultural resources outside the limits of work performed under this contract shall be preserved in their present condition.
1. Damage by Contractor: Cultural resources unnecessarily damaged by the Contractors equipment or operations shall be mitigated to a level accepted by CN DE at the Contractors expense. The contracting or purchasing officer through the CN DE in consultation with the State Historical Preservation Office (SHPO) will decide what method of mitigation will be required.
 2. Cultural Resources Mitigation: All known sites shall be avoided if possible. If sites are discovered during ground-disturbing activities, they shall be avoided if possible and mitigated in other ways if avoidance is not possible. Any sites approved for mitigation (other than avoidance) by CN DE will be treated in accordance with the SHPO requirements (section 106 – 36CFR 800).
 3. Excavation: Notify CN DE three working days before trenching for culverts and/or underground electrical work in roadways. Trenching (excavating) will be monitored by Camp Navajo government personnel.
NOTE: Construction delays or diversions of work could occur in order to mitigate impacts to cultural resources (archaeological sites) that may be encountered during grading and excavating operations. These delays or diversions may extend from a few hours to several days depending upon the significance of the resources discovered and the level of mitigation needed.
- B. Spill Prevention and Response: To prevent and reduce the impact of fuel, lubricant, and other regulated material releases to the environment, the Contractor shall comply with the requirements outlined in the Camp Navajo Spill Prevention, Control and Countermeasures Plan (SPCCP).
1. Spill Reporting: In the event of a fuel or other regulated material release to the environment, the contractor shall immediately report a release or spill to the Camp Navajo Fire Department.
 2. Spill Prevention: To minimize environmental contamination during a project, the contractor shall provide secondary containment for stationary fuel containers and fuel transfer points. Appropriate spill response equipment shall be available on site, and ongoing preventive maintenance of vehicles and material storage facilities shall be instituted to prevent releases.
 3. Spill Cleanup: The contractor shall be responsible for the cleanup, restoration, and disposal of all wastes resulting from contractor generated spillage, refueling, and leakage. If the contractor is unable or unwilling to affect such cleanup, restoration and disposal, Camp Navajo shall take appropriate actions and bill the contractor for such effort.
 4. Waste Disposal: All spill residue, contaminated oil, unused product, and empty containers generated by the contractor shall be disposed of by the

contractor in accordance with applicable local, state, and federal regulations and directives.

1.6 PRE-BID SITE VISIT

- A. The contractor shall schedule an on-site visit with the POR prior to submitting a bid to review the project, take field measurements, and examine the conditions of substrates, supports, and other conditions under which this work is to be performed.

1.7 PRE-CONSTRUCTION CONFERENCE

- A. Scheduling: After award of contract, but prior to commencement of any work at the site the Purchasing Officer will schedule a pre-construction conference and organizational meeting at the project site or other convenient location. The Purchasing Officer will conduct the meeting to review responsibilities and personnel assignments.
- B. Attendees: The Government (Owner), the Contractor and his superintendent, major subcontractors, manufacturers, suppliers and other concerned parties shall be represented at the conference by persons familiar with and authorized to conclude matters relating to the work..
- C. Agenda: The meeting will address items of significance that could affect progress including such topics as:
 - 1. Tentative construction schedule
 - 2. Critical work sequencing
 - 3. Administration of value engineering
 - 4. Designation of responsible personnel
 - 5. Procedures for processing field decisions and change orders
 - 6. Procedures for processing applications for payment
 - 7. Distribution of contract documents
 - 8. Submittal of shop drawings, product data, and samples
 - 9. Preparation of record documents
 - 10. Use of the premises
 - 11. Office, work and storage areas
 - 12. Equipment deliveries and priorities
 - 13. Safety procedures
 - 14. First Aid
 - 15. Security
 - 16. Housekeeping
 - 17. Working hours

1.8 QUALITY ASSURANCE

- A. Contractor Responsibilities: The contractor shall provide inspections, tests and similar quality control services specified in individual specification sections and as otherwise required by governing authorities, except where they are specifically indicated to be the Government's responsibility or are provided by another identified entity. Note: It is the intent of these specifications that Camp Navajo as the owner or the government does not contract for, make arrangements for, and PAY for any tests

required to validate the construction activities of the contractor or any subcontractor or supplier. These services include those specified to be performed by an independent agency and not by the Contractor. Costs for these services shall be included in the contract sum.

- B. Re-testing: The contractor is responsible for re-testing where results of required inspection tests or similar services prove unsatisfactory and do not indicate compliance with contract document requirements regardless of whether the original test was the Contractor's responsibility. Cost of re-testing construction revised or replaced by the Contractor is the Contractor's responsibility where required tests were performed on original construction.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION 01141

SECTION 01340 SUBMITTALS

PART 1 GENERAL:

The Contractor shall submit to the Engineer or Owner all items included in this Section. Submittals shall be provided as follows:

ALONG WITH CONTRACTOR'S BID

- A. A project reference list documenting the experience of the CONTRACTOR on a minimum of 5 projects consisting of at least 5 million square feet of installed PVC geomembrane.
- B. A copy of the Fabricator's Quality Assurance/Quality Control (QA/QC) Plan for the complete geomembrane fabrication process.
- C. A schedule of operations, including means and methods of installation.
- D. The name of the fabricator of the geomembrane panels to be used for the project and the proposed method of joining adjacent geomembrane panels.

1.0 SHOP DRAWINGS

- A. Shop drawings, including proposed panel diagram and details of proposed work, and details of sealing around all necessary geomembrane penetrations, to be submitted at least 15 days prior to delivery of geomembrane to the site. The panel diagram must depict and/or note the planned number and orientation of panels, the panel sizes, seam orientation, placement of seams in corners, treatment of tee seams (if required) and the contractor's preferred sequence of panel placement. The PVC panels shall be orientated in a manner that minimizes seams. The engineer or owner, prior to geomembrane installation must approve the panel diagram. The engineer or owner, in writing, prior to altering the installation, must approve proposed revisions to the panel diagram.
- B. Scale and Measurements: Make shop drawings accurate to a scale sufficiently large enough to show all pertinent aspects of the item and its method of connection to the work.
- C. Types of prints required: Submit three (3) sets of as-built drawings; 1 set on mylar, 1 set on bond and 1 electronic copy, all drawings to be supplied in ACAD2004 format.

1.1 GEOMEMBRANE-MANUFACTURERS QUALITY CONTROL (MQC)

- A. Geomembrane - Manufacturing Quality Control (MQC) data (Material Certifications) for the geomembrane to be delivered to the site. The reports shall include the quality control test results obtained during the manufacture of the material. In the event material is delivered to the site prior to the receipt of the MQC certificates, the material without certificates will be stored separately from the material with certificates. Material with unacceptable MQC data will be segregated from approved material and shall be marked for rejection. The geomembrane will be

rejected if it is found to have defects, rips, holes, flaws, deterioration or other damage deemed unacceptable by the engineer or owner.

1.2 GEOMEMBRANE SAMPLE

- A. A sample property sheet, including at a minimum all properties specified, including test method used.

1.3 QUALIFICATIONS

- A. Manufacturers qualifications: The manufacturer of the PVC geomembrane of the type specified shall have at least five years of experience in the manufacture of PVC geomembranes. In addition, the geomembrane manufacturer shall have manufactured at least one million square feet of the specified type of geomembrane in the last five years and be a member of the PVC Geomembrane Institute (PGI).
- B. Fabricators qualifications: The Fabricator of the proposed PVC geomembrane shall have a minimum one million square feet of fabrication experience over the last 3 years and be a member of the PGI.
- C. Installer qualifications: The Geomembrane Installer shall have at least three years of experience in the installation of the specified geomembrane and shall have installed a minimum of five million square feet of the specified geomembrane on a minimum of ten projects. The installer shall be certified by the fabricator to install fabricated products and be a member of the PGI.

- 1. Installation shall be performed under the direction of a Field Installation Supervisor who shall be responsible through out the geomembrane installation. Responsibilities include: geomembrane panel deployment, anchorage, seaming, patching, testing, repairs, and all other daily activities of the Geomembrane Installer.
- 2. Seaming shall be performed under the direction of a Master Seamer (who may also be the Field Installation Supervisor or Crew Foreman) who has seamed a minimum of three million square feet of the type specified, using the same type of seaming apparatus to be used in the current project. The Field Installation Supervisor or Master Seamer shall be present whenever field seaming is being performed.
- 3. All seaming, patching, other welding operations, and testing shall be performed by a qualified technician employed by the Installer.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION 01340

SECTION 01600 MATERIALS AND EQUIPMENT

PART 1 GENERAL

1.0 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. The contractor shall protect the work described in this Section before, during, and after installation, and shall protect the installed work specified in other Sections, as well as work completed by the owner.
- B. Geomembrane labeling, shipment and storage shall follow ASTM D4551 as modified according to this Specification.
- C. Product labels shall be placed on the top of panels such that they can be seen, clearly showing the fabricator or supplier name, product description, panel number, and panel dimensions.
- D. Each panel of PVC shall include any additional information required to allow the engineer to relate that panel with the manufacturing quality control and raw material quality assurance documentation. Additionally, if any special handling is required, it shall be so marked on the outside surface of the wrapping.
- E. During storage, the geomembrane shall be placed on a stable, relatively flat, dry, well-drained surface. The geomembrane pallets shall not be placed on objects that may cause deformation of the geomembrane panels. Adequate space shall be left between stored panels, such that panel labels can be examined. The geomembrane shall be protected from the following:
 - 1. Site construction damage.
 - 2. Chemicals that are strong acids or bases.
 - 3. Flames, sparks, geomembrane temperatures in excess of 150° F.
 - 4. Any environmental condition that might damage the geomembrane.
- F. Panel numbers on partially used panels must be maintained such that each panel number can be readily identified prior to deployment of the remaining portions of the panel.
- G. If the engineer determines the geomembrane is damaged, the contractor shall make all repairs and replacements in a timely manner, so as to prevent delays in the progress of the work.

1.1 GEOMEMBRANE MATERIAL

- A. The geomembrane shall consist of new, virgin materials and be manufactured specifically for this work and will have satisfactorily demonstrated by prior testing to be suitable and durable for such purposes. The geomembrane shall be manufactured and fabricated by a member of the PGI and to the PGI 1104 specifications.

1.2 PACKAGING

- A. Each fabricated panel delivered to the site shall be wrapped with protective

material and labeled by the fabricator. The label or marking shall have manufacturers name, material thickness, panel identification number corresponding to panel placement layout, panel dimensions, weight, and be labeled on fabricated material as well as protective cover.

1.3 ON-SITE CONDITIONS

- A. No standing water, mud, snow, or excessive moisture will be allowed on the site. The Geomembrane will not be deployed in the presence of standing water, mud, snow, or frozen subgrade conditions. Geomembrane should not be installed while precipitation is occurring or during excessive winds, or when temperatures are outside the limits of PGI 1104 specifications.

1.4 GEOMEMBRANE PLACEMENT

- A. PVC geomembrane shall not be deployed until all applicable submittals, certifications, and quality control certificates listed in subsection 1.03 of this specification are submitted and approved by the owner's representative. Should the PVC geomembrane be deployed prior to approval of the Owner's Representative, it will be at the sole risk of the geomembrane installer and/or contractor. If the material does not meet the specification it shall be removed from the site at no cost to the owner.
- B. The PVC geomembrane shall be installed to the project limits as detailed on the panel layout drawings.
- C. Temperature limitations shall be determined in the preconstruction meeting and approved by the Owner's Representative unless otherwise approved by the owner.
- D. No vehicles, other than those approved by the installer, are allowed on the geomembrane. Small rubber tired equipment with a ground pressure not exceeding 5 psi and a total weight not exceeding 750 lbs will normally be allowed. Typical equipment that is usually used during installation and testing and allowed on the geomembrane include air compressors, generators, etc.
- E. Sandbags or equivalent ballast shall be used as necessary to temporarily hold the PVC geomembrane in position.
- F. Geomembrane placement shall not be performed if moisture present prevents proper subgrade preparation, panel placement, or panel seaming. Moisture limitations shall be defined in the preconstruction meeting.
- G. Damaged panels or portions of damaged panels which have been rejected shall be marked and their removal from the work area recorded.
- H. The geomembrane shall not be allowed to "bridgeover" voids or low areas in the subgrade. In these areas the PVC geomembrane shall be installed with sufficient slack as to allow material to remain in intimate contact with the subgrade or the subgrade repaired.
- I. In general, seams shall be oriented parallel to the line of the maximum slope, i.e., the seam should run down the slope. In corners and odd geometric locations, the total length of the field seam shall be minimized. If at all

possible, seams shall not be located at low points in the subgrade unless geometry requires seaming to be done at these locations.

J. Panel Overlapping for Seaming:

Chemical Seam – 6-8” overlap with a 2” wide seam.

Thermal Seams:

Single Track weld – 4 to 6” overlap and a minimum 1.5” wide seam.

Dual Track weld – 4 to 6” overlap and minimum 0.5” wide seams

1.5 SEAMING SPECIFICATIONS

1. Chemical Seaming

- A. Prior to starting any field welds each seam crew shall prepare a test seam to verify quality and temperature requirements can be met.
- B. Panels to be welded using chemicals shall be overlapped a minimum of 6”.
- C. Care should be taken to clean all areas with a rag prior to applying chemicals.
- D. A sufficient amount of chemical shall be placed on both sheets of the PVC geomembrane to be joined with either a squeeze bottle or paintbrush and form a continuous wide weld path of at least 1.5 inches in width.
- E. After application of chemical, the seam area should be rolled with a seam roller releasing any air bubbles and forming a continuous seam path. The seaming crew shall take care to always tie-in or weld to the prior chemical seam area as they continue along down the seam.
- F. Upon completion of each seam, the seam shall be inspected and any loose areas re-rolled and/or chemical added as required to complete the seam.

1.6 GEOMEMBRANE PENETRATION BOOTS

- A. The CONTRACTOR shall furnish all geomembrane penetration boots and other materials required for completion of the geomembrane installation. All geomembrane boots required for the project shall be factory prefabricated boots. The geomembrane shall be of the same thickness as the geomembrane panels.
- B. Geomembrane penetrations are to be constructed only at the locations shown on the Plans. The CONTRACTOR is cautioned that no deviation in the quantity or configuration of geomembrane penetrations will be accepted without the advance written approval of the ENGINEER.
- C. All penetrations through the geomembrane shall be thoroughly and securely sealed. The seal between the geomembrane and the pipe shall be without any detectable leakage.
- D. In attaching the geomembrane penetration boot in the field, no field seams will be allowed in locations or configurations that do not allow for Construction Quality

Control testing. Visual observation is not considered a sole acceptable method for in-field quality control.

- E. Where clamps, fasteners, gasket seals or sealants are used, the GEOSYNTHETICS CONTRACTOR shall use only materials that are compatible with the geomembrane.

1.7 AIR LANCE TESTING

- A. Chemical and solid thermal, i.e., single track, welds can be tested utilizing the Air Lance Test Method ASTM D 4437.. The Geomembrane Installer shall provide an air compressor, air hose, and air lance wand with a pressure gauge capable of measuring the air flow at the tip. The testing shall be performed by experienced technicians familiar with this testing procedure.
- B. This non-destructive test involves placing the air lance wand $\frac{1}{4}$ " to $\frac{1}{2}$ ", but not more than 2", from the edge of the completed seam and closely monitoring the backside of the sheet for any air penetration through the seam, loose edges, ripples, and/or noise . If air penetrates the seam area, the technician will either see this visibly or hear it audibly.
- C. All seams tested by the air lance method shall be marked with the date tested, name of the technician, length of the seam, and test results. As with all QC work this should be documented on all QC paperwork and preferably witnessed by the Owners Representative or his designated employee.

1.8 IDENTIFICATION OF DEFECTS

- A. Panels and seams shall be inspected by the geomembrane installer and the owner's representative during and after panel deployment to identify all defects, including holes, blisters, and undispersed raw materials.
- B. Seams shall be inspected by the geomembrane installer and the owner's representative before, during, and after field seaming to identify all dirty and wrinkled areas and any defects.

1.9 EVALUATION OF DEFECTS

1. Evaluation of defects: Each suspect location (both in geomembrane seam and non-seam areas) shall be non-destructively tested using the air lance test method in ASTM D4437. Each location which fails non-destructive testing shall be marked, numbered, measured, and posted on the daily installation drawings and subsequently repaired.

- A. If a destructive sample fails the field or laboratory tests, the geomembrane

- installer shall repair the seam between the two nearest passed locations on both sides of the failed destructive sample location.
- B. Defective seams, tears, or holes shall be repaired by re-seaming or applying a cap strip.
 - C. Re-seaming may consist of either:
 - 1. Removing the defective area and rewelding the parent material using the original welding equipment, or
 - 2. Re-seaming by cap stripping as described in section 3.06(C)(7).
 - D. Each patch shall extend a minimum of 150 mm (6 inches) in all directions beyond the defect.
 - E. All repairs shall be measured, located, and recorded.

1.10 LINER ACCEPTANCE

- A. The PVC Geomembrane will be accepted by the Owners Representative when all of the following have been completed:
 - 1. The entire installation is finished or an agreed upon subsection of the installation is finished.
 - 2. All Installers QC documentation is completed and submitted to the owner.
 - 3. Verification of the adequacy of all field seams and repairs and associated geomembrane testing is complete.

1.11 DISPOSAL OF SCRAP MATERIALS

- A. On completion of installation, the geomembrane installer shall dispose of all waste and scrap material in a location provided and approved by the owner. The installer should also remove all equipment used in connection with the work herein, and shall leave the premises in a neat acceptable manner. No scrap material shall be left on the completed surface of the PVC geomembrane.

1.12 GOVERNMENT RESPONSIBILITIES

- A. The PVC geomembrane must be covered with a minimum of 12 inches of clean soil, free of sticks, stones larger than ½ inch diameter, rubbish, or any other material which may damage the liner. The cover material should be placed over the liner as soon as practical after the liner is installed.
- B. Care should be taken when covering the liner to prevent any damage to the geomembrane or other geosynthetics. At no time will construction equipment come into direct contact with the geomembrane. If damage occurs, it will be repaired, at the owner's expense, prior to the completion of geomembrane covering.
- C. Cover soil shall be only placed over the geomembrane from the base of the slope to the top of the slope. Cover soil should never be pushed down the slope.
- D. Cover soil should be "rolled" onto the installed geomembrane and not pushed along the geomembrane which can result in damage and wrinkling of the geomembrane.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION 01600

SECTION 01770 - CLOSEOUT PROCEDURES

PART 1 GENERAL

1.0 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
1. Inspection procedures.
 2. Project Record Documents.
 3. Warranties.
 4. Final cleaning.

1.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 2. Submit specific warranties.
 3. Prepare and submit Project Record Documents, operation and maintenance manuals, and similar final record information.
 4. Deliver spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 5. Terminate and remove temporary facilities from Project site, along with construction tools, and similar elements.
 6. Complete final cleaning requirements, including touchup painting.
 7. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. After inspection owner will notify Contractor of items, either on Contractor's list or any additional items identified that must be completed or corrected.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.3 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment.

2. Submit copy of Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by owner. The copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
- B. Submit copy of Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by owner. The copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit one copy of the list. Include name and identification of each area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1.5 PROJECT RECORD DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Owner's reference during normal working hours.
- B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.
 1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
 - b. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 3. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 4. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 5. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 6. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 7. Note related Change Orders and Record Drawings, where applicable.

- C. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

1.6 WARRANTIES

- A. The contractor shall issue a warranty on the installation of geomembrane for a minimum period of 1 year.
- B. The contractor shall issue a warranty on the geomembrane material for a minimum period of 20 years.

1.7 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

1.8 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - c. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - d. Leave Project clean and ready for occupancy.

- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION 01770

DIVISION 2 SITEWORK

SECTION 02920 - LAWNS AND GRASSES

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section includes seeding.

1.2 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Manufactured Soil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- C. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.
- D. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Product certificates.
- C. Planting Schedule: Indicating anticipated planting dates.

1.4 QUALITY ASSURANCE

- A. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when planting is in progress.
- B. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory.

PART 2 – PRODUCTS

2.1 SEED

- A. Seed shall consist of a mix of the following, in quantities to provide the specified planting rates "Rules for Testing Seeds" for purity and germination tolerances.
- B. Table A – Seed Mixture Table for Reseeding upland (dry) Camp Navajo Sites.

SPECIES	POUNDS PER ACRE/PLS
Cold Season	
Squirreltail – <i>Elymus elymoides</i>	9.0 lbs. (25%)
Warm Season	
Arizona Fescue- <i>Festuca arizonica</i>	2.5 lbs. (50%)
Blue Grama – <i>Bouteloua gracilis</i>	3.0 lbs. (50%)

Nitrogen Fixing Forbs	
Silvery Lupine – <i>Lupinus argenteus</i>	.4 lbs. (25%)
Hill's Lupine – <i>Lupinus hillii</i>	.4 lbs. (25%)

- C. Application rates of seed as specified are for Pure Live Seed (PLS). PLS is determined by multiplying the sum of germination and hard or dormant seed by the purity.
- D. The seed shall be delivered to the project site in standard, sealed, undamaged containers. Each container shall be labeled in accordance with Arizona Revised Statutes and the U.S. Department of Agriculture rules and regulations under the Federal Seed Act. Labels shall indicate the variety or strain of seed, the percentage of germination, purity and weed content and the date of analysis which shall not be more than nine months prior to the delivery date. Weed content of seed shall not exceed 0.5%.
- E. The type of seed and the PLS rate shall be as specified in the Seed Mixture Table above, at the application rates specified in Table A.

2.2 WOOD FIBER MULCH

- A. The wood fiber shall be natural wood fiber having a property of dispersing readily in water, heat processed in such a manner so that it does not contain any growth or germination inhibiting factors and shall have no toxic effect when combined with seed or other material. The fiber shall be dyed green to allow visual monitoring during application, using dye which is non-injurious to plant growth.
- B. Wood fiber shall be delivered in undamaged containers labeled and bearing the name of manufacturer and showing the air-dry weight content, the maximum being 12 percent plus or minus 3 percent at the time of the manufacture, and with a pH range of 4.5 to 6.5.

2.3 CHEMICAL FERTILIZER

- A. Chemical fertilizer shall be a standard commercial fertilizer, suitable for application with approved equipment, containing the minimum analysis and in the physical form of 16-20-0. The first number shall represent the minimum percent of soluble nitrogen, the second number shall represent the minimum percent of available phosphoric acid and the third number shall represent the minimum percent of water soluble potash. Chemical fertilizer shall be furnished in standard containers with the name, weight, and guaranteed analysis of the contents clearly marked.

2.4 TACKTIFIER

- A. Tackifier shall consist of organic muciloid liquid concentrate diluted with water and a psyllium base containing no agents toxic to seed germination. Addition of fertilizer to the slurry mix shall not change the properties of the tackifier. When applied, tackifier shall form a transparent crust permeable by water and air.

2.5 WATER

- A. Water shall be free of oil, acid, salts or other substances harmful to plants, and suitable for irrigation. The source shall be approved by the Purchasing Officers Representative (POR) to use.

PART 3 – EXECUTION

3.1 GENERAL

- A. Perform work only after other work affecting the ground is complete. Rough grading shall be complete, as indicated on the drawings. All areas intended for hydroseeding shall not be treated with a pre-emergent control. Protect existing facilities from damage caused by hydroseeding operations.
- B. Contractor shall schedule the work so that planting occurs according to “A” above and 2.1B, Table A, Seed Mixing Table.
- C. Igloo area designated on the drawings, including the berm, shall be seeded.

3.2 PREPARATION

- A. Where equipment can operate, the area to be seeded shall be prepared by disking harrowing, or by other approved methods of loosening the surface soil to a depth of four (4) inches. Remove and dispose of all sticks, roots rubbish and other deletrious materials. Finish grade shall be left in roughened condition. Do not rake smooth.
NOTE: RESTRICTION: During preparation of soil, do not use equipment that weighs more than 1500 pounds, no more than eight (8) from the igloo arch.
- B. On slopes too steep for equipment to operate, the area shall be prepared by hand raking to a depth of four (4) inches. On sloping areas, all disking, harrowing and raking shall be directional parallel to the contours of the areas involved. All area which are eroded shall be restored to the specified condition, grade and slope as directed prior to seeding.
- C. Seeding operation shall not be performed on undisturbed soil outside the limits of the project. Seeding operations shall not be performed when wind would prevent uniform applications of materials or would carry seeding materials into areas not to be seeded.

3.3 APPLICATION

- A. The homogeneous mixture shall be applied to the seeding area by means of hydraulic-type equipment which shall provide continuous mixing and agitation action to the mixture of water, fertilizer, seed, and wood fiber. The mixture shall be applied through a pressure-spray distribution system providing a continuous, non-fluctuating discharge and delivery of the mixture in the prescribed quantities.
- B. The application rates for seed mix materials shall be applied as specified:

<u>Materials</u>	<u>Pounds per Acre</u>
Seed Mix	12 (species per Table A)
Wood Cellulose fiber	1500
Chemical Fertilizer	200
Tackifier	125
Water	Sufficient amount to form a homogeneous mixture capable of being applied by commercial hydromulching equipment.

C. Apply seed, mulch, fertilizer and tackifier in a two (2) step process.

Step 1. Mix seed with a chemical fertilizer (200 pounds per acre), wood cellulose fiber (200 pounds per acre), and water to form a slurry mix.

Step 2. Apply slurry mix, 125 pounds per acre of tackifier, 1300 pounds per acre of wood fiber mulch, and water.

3.4 MAINTENANCE

- A. The contractor shall provide in their bid a cost to provide maintenance of all seeded areas until a healthy stand is achieved. This portion of the bid may be excluded by the owner if the owner decides to perform the required maintenance in-house. Maintenance shall include watering, fertilizing, and necessary weeding. The method shall guarantee a healthy stand of plants with a minimum of 70 percent coverage.
- B. The work provided for will be found complete when the planted seeds yield a minimum stand, as determined by the POR based on the supplier's specified germination rates and species used and the seeded area are free from weeds and disease.

END OF SECTION 02920